AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) In a disk drive control system comprising a micro-controller, a micro-controller cache system having a cache memory and a cache control subsystem, and a buffer manager communicating with the micro-controller cache system and a remote memory, a method for improving fetch operations between the micro-controller and the remote memory via the buffer manager, the method comprising:

receiving a data-request from the micro-controller in the cache control subsystem wherein the data-request comprises a request for at least one of an instruction code and non-instruction data;

providing the requested data to the micro-controller if the requested data reside in the cache memory; and

if the requested data does not reside in the cache memory:

determining if the received data-request is for a non-instruction data if the requested data does not reside in the cache memory;

fetching the non-instruction data from the remote memory by the micro-controller cache system via the buffer manager; and

bypassing the cache memory to preserve the contents of the cache memory and provide providing the fetched non-instruction data to the micro-controller without caching the fetched non-instruction data.

2. (Currently Amended) The method of claim 1, wherein the determining is based on a signal received from the micro-controller.

3. (Currently Amended) The method of claim 2, wherein the fetching further comprises:

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transmitting a cache control subsystem data-request from the cache control subsystem to the buffer manager;

accessing the remote memory by the buffer manager; and

retrieving the cache control subsystem requested data from the remote memory.

4.   (Original)   The method of claim 1, wherein the buffer manager is in communication with a plurality of control system clients and provides client-requested data to the clients from the remote memory.

5.   (Original) The method of claim 4, wherein the plurality of control system clients comprises at least one of a disk subsystem, an error correction code subsystem, and a host interface subsystem.

6.   (Original)   The method of claim 1, wherein the remote memory comprises a dynamic random access memory (DRAM).

7.   (Currently Amended) The method of claim 1, further comprising:
        <u>if the requested data does not reside in the cache memory:</u>
                determining if the received data-request is for an instruction code ~~if the requested data does not reside in the cache memory~~; and
                filling the cache memory if the received data-request is for ~~an~~ <u>the</u> instruction code.

8.   (Currently Amended)   The method of claim 7, wherein ~~the~~ filling the cache memory comprises a burst fill of the cache memory.

9.   (Currently Amended) A disk drive control system comprising:
                a micro-controller; and

a micro-controller cache system in communication with the micro-controller and comprising a cache memory and a cache-control subsystem, wherein the micro-controller cache system is adapted to:

a) receive a data-request from the micro-controller in the cache control subsystem, wherein the data request comprises a request for at least one of an instruction code and non-instruction data,

b) provide the requested data to the micro-controller if the requested data reside in the cache memory, and

if the requested data does not reside in the cache memory:

c) determine if the received data-request is for a non-instruction data if the requested data does not reside in the cache memory,

d) fetch the non-instruction data from the remote memory via a buffer manager adapted to provide the micro-controller cache system with micro-controller requested data stored in a remote memory, and

e) bypass the cache memory to preserve the contents of the cache memory and to provide the fetched non-instruction data to the micro-controller without caching the fetched non-instruction data.

10.   (Currently Amended) The disk drive control system of claim 9, wherein the cache control subsystem it is further adapted to determine if the received data-request is for a non-instruction data based on a signal received from the micro-controller.

11.   (Currently Amended) The disk drive control system of claim 10, wherein the micro-controller cache system is further adapted to:

af) transmit a cache control subsystem data-request from the cache control subsystem to the buffer manager; and

b) access the remote memory via the buffer manager; and

eg) receive the cache control subsystem requested data from the remote memory.

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12.   (Original) The disk drive control system of claim 9, wherein the buffer manager is in communication with a plurality of control system clients and provides client-requested data to the clients from the remote memory.

13.   (Original) The disk drive control system of claim 12, wherein the plurality of control system clients comprises at least one of disk subsystem, an error correction code subsystem, and a host interface subsystem.

14.   (Original) The disk drive control system of claim 9, wherein the remote memory comprises a dynamic random access memory (DRAM).

15.   (Currently Amended) The disk drive control system of claim 9, wherein the micro-controller cache system is further adapted to:
       if the requested data does not reside in the cache memory:
       h) determine if the received data-request is for an instruction code~~ if the requested data does not reside in the cache memory~~; and
       i) fill the cache memory if the received data-request is for ~~an~~ the instruction code.

16.   (Original) The disk drive control system of claim 15, wherein the cache memory is filled with a burst fill.